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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,350	03/04/2002	Masahiro Shibamoto		3984

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EXAMINER

RICKMAN, HOLLY C

ART UNIT PAPER NUMBER

1773

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/090,350	<b>Applicant(s)</b> SHIBAMOTO ET AL.	
	<b>Examiner</b> Holly Rickman	<b>Art Unit</b> 1773	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 July 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 11, 12, 15-17, 21 and 22 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-4, 21-22 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 11, 12 and 15-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. Applicant's amendments to the specification to correct minor informalities are acknowledged.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The rejection of claims 5 and 6 under 35 U.S.C. 112, second paragraph, is rendered moot by the cancellation of these claims.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. The rejection of claims 3-4 under 35 U.S.C. 102(b) as being anticipated by Okumura et al. (US 5700593) is withdrawn in view of Applicant's amendments.

5. Claims 1-2, 11-12, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Okumura et al. (US 5700593).

Okumura et al. disclose a magnetic recording medium having a substrate formed from glass, a seedlayer formed thereon from a material such as CrTaN or VTaN wherein the surface of the seedlayer is exposed to oxygen. An underlayer is formed on the seedlayer and an anisotropic magnetic layer is formed thereon (col. 2, lines 31-37; col. 3, lines 54-58; col. 4, lines 15-45; col. 5, lines 21-23; Table 3, examples 2 and 4).

6. The rejection of claim 3 under 35 U.S.C. 102(b) as being anticipated by JP 10-162338 is withdrawn in view of Applicant's amendments.

7. Claims 1, 11-12, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 10-162338.

JP 10-162338 discloses a magnetic recording medium having a glass substrate, an amorphous seedlayer of CrNbN or CrTaN, an underlayer of a CrNi-based alloy, a Cr intermediate layer and an anisotropic magnetic recording layer (see paragraph 3 and Table 1 of translation).

#### ***Claim Rejections - 35 USC § 102/103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. The rejection of claims 5-6 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Okumura et al. (US 5700593) has been rendered moot by the cancellation of these claims.

***Claim Rejections - 35 USC § 103***

10. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura et al. (US 5700593) in view of Chang et al. (US 2002/0132139).

Okumura et al. teaches all of the limitations of the claims, as detailed above, except for the presence of an intermediate layer between the underlayer and the magnetic layer.

Chang et al. teaches that it is known in the art to add a non-magnetic hcp intermediate layer in between a Co-based magnetic layer a bcc Cr-based underlayer in order to improve lattice matching between the layers (see paragraph 21).

It would have been obvious to one of ordinary skill in the art at the time of invention to add such an intermediate layer in between the bcc Cr underlayer and the Co-based hcp magnetic layer taught by Okumura et al. in order to improve lattice matching between layers.

***Allowable Subject Matter***

11. Claims 3-4 and 21-22 are allowable over the closest prior art to Okumura et al. (US 5700593) and JP 10-162338. The prior art fails to teach or suggest the claimed deposition step requiring sputtering of a greater number of particles having a directional component along the direction of magnetic anisotropy to form the claimed anisotropy allowing layer.

*Response to Arguments*

12. Applicant's arguments filed 7/19/04 have been fully considered but they are not persuasive. With respect to the rejected article claims, Applicant argues that Okumura teaches a sputtering process but the anisotropy in Okumura is not achieved via sputtering but rather as a function of the underlayer. Applicant argues that JP -338 to Chang also fails to teach the step of sputtering of a greater number of particles having a directional component along the direction of magnetic anisotropy to form the claimed anisotropy allowing layer.

The limitation requiring requiring sputtering of a greater number of particles having a directional component along the direction of magnetic anisotropy to form the claimed anisotropy allowing layer in claim 1 is a process limitation in an article claim. It has been held that even though product claims containing process limitations are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the claim containing a process limitation is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Thus, Applicant's arguments are not persuasive.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Holly Rickman  
Primary Examiner  
Art Unit 1773

hr  
September 30, 2004